



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,498	10/30/2003	Sanjay Aiyagari	50325-0805	9591
29989 7590 01/02/2008 HICKMAN PALERMO TRUONG & BECKER, LLP 2055 GATEWAY PLACE SUITE 550 SAN JOSE, CA 95110			EXAMINER KIM, PAUL	
			ART UNIT 2161	PAPER NUMBER
			MAIL DATE 01/02/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/698,498

Applicant(s)

AIYAGARI ET AL.

Examiner

Paul Kim

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-13,15-20,39-42,44-51 and 53-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-13,15-20,39-42,44-51 and 53-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This Office action is responsive to the following communication: Amendment filed on 15 October 2007.
2. Claims 1-4, 6-13, 15-20, 39-42, 44-51 and 53-58 are pending and present for examination.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 October 2007 has been entered.

Response to Amendment

4. Claims 1, 6, 7, 10, 12, 15, 16, 18, 39-42, 44-51, and 53-56 have been amended.
5. No claims have been cancelled.
6. No claims have been added.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. **Claims 1-4, 6-9, 10-13, and 15-17** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Accordingly, both the apparatus and method claims may be considered to be software, per se, since both claims fail to be integrated into a computer hardware system for execution. Therefore, since

the claims simply recite but simply recite sections and steps of implementation, said claims constitute non-statutory subject matter since they fail to fall within a statutory category.

Additionally, Claims 6-7 and 15-16 the limitations wherein the user is granted the privilege of performing the resource operation "only if the permission bit allows the operation." The aforementioned claim language provides for optional language wherein if said permission bit disallows the operation, the resource operation is not performed. Hence, the method would therein produce no "useful, concrete, and tangible result" in that the electronic document is not expanded. See State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. MPEP 2106. "The claimed invention as a whole must accomplish a practical application. That is, it must produce a 'useful, concrete and tangible result' " (emphasis added). The Examiner further notes that a plurality of the remaining claims contain optional language by reciting "if" statements (e.g. claims 44, 45, and etc.).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claim 1-4, 7-11, 13, 16-17, 18-20, 39-42, 45-49, 51 and 54-58** rejected under 35 U.S.C. 103(a) as being unpatentable over Indicula et al (U.S. Patent No. 6,950,822, hereinafter referred to as INDICULA), filed on 25 November 2002, and issued on 27 September 2005, in view of Deinhart et al (U.S. Patent No. 5,911,143, hereinafter referred to as DEINHART), filed on 14 August 1995, and issued on 8 June 1999.

11. **As per claims 1, 10, 18, 39, 48 and 56**, INDICULA, in combination with DEINHART, discloses:
A method for controlling access to a resource, the method comprising the steps of:

creating and storing in a filesystem of an Operating System a file that represents the resource {See IDICULA, C4:L42-56, wherein this reads over "session objects 122, one or more process state objects 130a, 130b, collectively referenced hereinafter as process state objects 130, and a session pool object 140. In object-oriented technologies, an object is a data structure that stores data that indicates one or more attributes or methods or both"};

receiving user-identifying information from a user requesting access to the resource, wherein the user-identifying information comprises a role associated with the user {See IDICULA, C5:L11-13, wherein this reads over "user information that indicates a user of the associated connection, the user's roles, and the user's privileges, among other information about the user"}, wherein the role is determined from a user identifier uniquely associated with the user and from a group identifier associated with a group that includes the user {See DEINHART, C1:L31-36, wherein this reads over "[i]n most of the installed computer systems access rights are granted or revoked explicitly for individual users or group of users on respective data or, more generally, on respective objects by a system administrator"};

receiving a resource identifier associated with the resource {See IDICULA, C7:L19-35, wherein this reads over "[i]f a session is already created for this client, a session object 122 associated with the client is indicated in the process state object 130"};

creating an access identifier based on the user-identifying information and the resource identifier, wherein the access identifier is formatted as a file attribute that is used by the Operating System to manage file access {See IDICULA, C4:L42-56, wherein this reads over "session objects 122, one or more process state objects 130a, 130b, collectively referenced hereinafter as process state objects 130, and a session pool object 140. In object-oriented technologies, an object is a data structure that stores data that indicates one or more attributes or methods or both"};

calling the Operating System to perform a file operation on the file by providing the access identifier to the Operation System to attempt access to the file {See IDICULA, C1:L52-62, wherein this reads over "[a] session is a related series of one or more requests for services made over a communication channel. The channel is typically established by the operating system of the host for the database server"; and C7:L19-30, wherein this reads over "[i]f a session is already created for this client, a session object 122 associate with the client is indicated in the process state object 130; and that session object 122 is used"}; and

granting the user access to the resource when the Operating System call successfully performs the file operation {See IDICULA, C7:L20-21, wherein this reads over "a request is received from database client 102a for database services"};

wherein the file operation on the file representing the resource is selected from a group consisting of opening the file, closing the file, deleting the file, reading from the file, writing to the file, executing the file, appending to the file, reading a file attribute, and writing a file attribute {See IDICULA, C7:L19-30, wherein this reads over "[i]f a session is already created for this client, a session object 122 associate with the client is indicated in the process state object 130; and that session object 122 is used"}.

While INDICULA fails to expressly disclose the determination of a role "from a user identifier uniquely associated with the user and from a group identifier associated with a group that includes the user," DEINHART discloses the grant or revocation of access rights for "individual users or

group of users . . . on respective objects." Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by INDICULA by combining it with the invention disclosed by DEINHART.

One of ordinary skill in the art would have been motivated to do this modification so that where a user falls within a classified group of users (e.g. System Administrator or Guest), a user identifier may be associated with the user accordingly.

12. **As per dependent claims 2, 11, 19, 40, 49 and 57**, it would be inherent for the role identifier and resource identifier to be stored in a first and second set of bits, respectively, since files are comprised of a sequence of bits.

13. **As per dependent claims 3, 20, 41 and 58**, INDICULA, in combination with DEINHART, discloses:

A method as recited in Claim 1, wherein:

- the step of creating an access identifier based on the user-identifying information and the resource identifier comprises formatting the access identifier as a group identifier file attribute {See DEINHART, C1:L31-36, wherein this reads over "[i]n most of the installed computer systems access rights are granted or revoked explicitly for individual users or group of users on respective data or, more generally, on respective objects by a system administrator"}; and

- the step of calling the Operating System to perform an operation on the file representing the resource comprises:

- assigning the access identifier to a group identifier attribute of an Operating System process {See IDICULA, C4:L42-56, wherein this reads over "session objects 122, one or more process state objects 130a, 130b, collectively referenced hereinafter as process state objects 130, and a session pool object 140. In object-oriented technologies, an object is a data structure that stores data that indicates one or more attributes or methods or both"}; and

- calling an Operating System routine from the Operating System process to perform the operation on the file representing the resource {See IDICULA, C1:L52-62, wherein this reads over "[a] session is a related series of one or more requests for services made over a communication channel. The channel is typically established by the operating system of the host for the database server"; and C7:L19-30, wherein this reads over "[i]f a session is already created for this client, a session object 122 associate with the client is indicated in the process state object 130; and that session object 122 is used"}.

14. **As per dependent claims 4, 13, 42 and 51**, INDICULA, in combination with DEINHART, discloses:

A method as recited in Claim 1,

wherein the step of calling the Operating System to perform an operation on the file representing the resource comprises comparing the access identifier to an identifier included in an Access Control List file attribute associated with the file representing the resource {See DEINHART, C1:L31-41, wherein this reads over "[w]hen an access request occurs during operation time of the computer system from a user or, more generally, from a subject to the object, then the security system looks at the access control list of the respective object and decides whether the subject may access the object in the request manner"},

wherein the Access Control List file attribute includes the identifiers of all users and all groups of users allowed to access the file representing the resource {See DEINHART, C1:L31-36, wherein this reads over "[i]n most of the installed computer systems access rights are granted or revoked explicitly for individual users or group of users on respective data or, more generally, on respective objects by a system administrator"}.

15. **As per dependent claims 7, 16, 45 and 54**, the claim does not carry patentable weight since the claim recites the file operation of "opening the file representing the resource," which was optionally recited in claims 1, 10, 18, 22, 31, 39, 48 and 56 (i.e. "wherein the file operation on the file representing the resource is selected from a group consisting of opening the file, closing the file, deleting the file, reading from the file, writing to the file, executing the file, appending to the file, reading a file attribute, and writing a file attribute"), upon which the said respective claims depend. Therefore, since the opening of the file is optional and not necessary to the claimed invention, the claim is rejected.

16. **As per dependent claims 8, 17, 46 and 55**, INDICULA, in combination with DEINHART, discloses:

A method as recited in Claim 1, wherein the step of representing the resource by a file stored in the Operating System filesystem comprises:

creating the file representing the resource in the Operating System filesystem {See IDICULA, C4:L42-56, wherein this reads over "session objects 122, one or more process state objects 130a, 130b, collectively referenced hereinafter as process state objects 130, and a session pool object 140. In object-oriented technologies, an object is a data structure that stores data that indicates one or more attributes or methods or both"; and

assigning an access value to a file attribute of the file representing the resource, the file attribute being used by the Operating System to manage file access {See IDICULA, C4:L42-56, wherein this reads over "session objects 122, one or more process state objects 130a, 130b, collectively referenced hereinafter as process state objects 130, and a session pool object 140. In object-oriented technologies, an object is a data structure that stores data that indicates one or more attributes or methods or both"}, wherein the access value corresponds to a combination of a role {See IDICULA, C5:L11-13, wherein this reads over "user information that indicates a user of the associated connection, the user's roles, and the user's privileges, among other information about the user"} and a resource {See IDICULA, C7:L19-35,

wherein this reads over "[i]f a session is already created for this client, a session object 122 associated with the client is indicated in the process state object 130".

17. As per dependent claims 9 and 47, INDICULA, in combination with DEINHART, discloses:

A method as recited in Claim 8, wherein the file attribute used by the Operating System to manage file access is a group identifier file attribute {See DEINHART, C1:L31-36, wherein this reads over "[i]n most of the installed computer systems access rights are granted or revoked explicitly for individual users or group of users on respective data or, more generally, on respective objects by a system administrator"}.

18. Claims 6, 12, 15, 44, 50 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Indicula et al, in view of Deinhart et al, and in further view of Lewis (U.S. Patent No. 6,233,576, hereinafter referred to as LEWIS), filed on 25 September 1995, and issued on 15 May 2001.

19. As per dependent claims 6, 15, 44 and 53, INDICULA, in combination with DEINHART and LEWIS, discloses:

A method as recited in Claim 1, the method further comprising the steps of:

reading a permission bit associated with the file representing the resource, wherein the permission bit corresponds to the operation performable on the file representing the resource {See LEWIS, C14:L6-12, wherein this reads over "derive the authorization file names and the permission bits (from the resource class and name), and to apply the appropriate permissions"};

based on the operation on the file indicated by the permission bit, determining a resource operation that is performable on the resource {See LEWIS, C16:L64-C17:L4, wherein this reads over "[t]he resulting access rights consist of a three bit filed with the following meanings . . ."}; and

granting the user the privilege of performing the resource operation on the resource {See DEINHART, C1:L31-41, wherein this reads over "[w]hen an access request occurs during operation time of the computer system from a user or, more generally, from a subject to the object, then the security system looks at the access control list of the respective object and decides whether the subject may access the object in the request manner"} only if the permission bit allows the operation to be performed on the file representing the resource {See LEWIS, C17:L5-9}.

While INDICULA and DEINHART fail to expressly disclose the use of permission bits in determining user privileges, LEWIS discloses the use of permission bits which signify Read, Write, or Execute authority. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by INDICULA and DEINHART by combining it with the invention disclosed by LEWIS.

One of ordinary skill in the art would have been motivated to do this modification so that files may contain permission bits which allow users the permission to certain operations on the file.

20. **Claims 6, 12, 15, 44, 50 and 53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Indicula et al, in view of Deinhart et al, and in further view of Official Notice.

21. **As per dependent claims 12 and 50**, INDICULA, in combination with DEINHART and Official Notice, discloses:

A method as recited in Claim 10, wherein the step of making an Operating System call to perform an operation on the file representing the resource comprises:

storing the group identifier value of a group identifier attribute of an Operating System process {See DEINHART, C1:L31-36, wherein this reads over "[i]n most of the installed computer systems access rights are granted or revoked explicitly for individual users or group of users on respective data or, more generally, on respective objects by a system administrator"};

assigning the access identifier to the group identifier attribute of the Operating System process {See IDICULA, C4:L42-56, wherein this reads over "session objects 122, one or more process state objects 130a, 130b, collectively referenced hereinafter as process state objects 130, and a session pool object 140. In object-oriented technologies, an object is a data structure that stores data that indicates one or more attributes or methods or both"};

calling an Operating System routine from the Operating System process to perform the operation on the file representing the resource {See IDICULA, C1:L52-62, wherein this reads over "[a] session is a related series of one or more requests for services made over a communication channel. The channel is typically established by the operating system of the host for the database server"; and C7:L19-30, wherein this reads over "[i]f a session is already created for this client, a session object 122 associate with the client is indicated in the process state object 130; and that session object 122 is used"}, wherein the operation on the file representing the resource is performed only if the value of the group identifier attribute of the Operating System process matches the value of the group identifier file attribute of the file representing the resource {See IDICULA, C7:L20-21, wherein this reads over "a request is received from database client 102a for database services"}; and

resetting the group identifier attribute of the Operating System process to the stored group identifier value {See Official Notice}.

The Examiner takes Official Notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made to reset the group identifier attribute of the Operating System process to the stored group identifier value. That is, where a group identifier is set, it would have been obvious to one of ordinary skill in the art to have the capability to reset said group identifier attribute accordingly.

Response to Arguments

22. Applicant's arguments filed 2 May 2007 have been fully considered but they are not persuasive.

a. Rejections under 35 U.S.C. 103

i. Applicant asserts the argument that Idicula fails to teach or suggest "creating and storing in a filesystem of an Operating System a file that represents the resource." See Amendment, page 23. The Examiner respectfully disagrees. The Examiner directs the Applicant to the disclosed portion of Idicula which provides prior art knowledge of session objects. See Idicula, col. 1, line 52 – col. 2, line 5. It is noted that the aforementioned portion of Idicula discloses that a "session object is a data structure that stores information that supports a session" which would read upon the storing of a file in a filesystem. While Applicant asserts the argument that a "session object 122 cannot be a file," one of ordinary skill in the art would readily acknowledge and know that wherein a session object takes the form of a data structure (i.e. a file), said session object file would be stored in some sort of a filesystem. That is, while session objects indeed reside in memory, session objects must necessarily also reside in some sort of filesystem which allows for access of said session objects. Additionally, it is noted for purposes of clarification that Idicula discloses a "database session object may also contain references to the database and database schema associated with the request" wherein the database session object (i.e. the file) represents the database (i.e. the resource). Accordingly, the Final Office action has not unreasonably broadened the meaning of the terms "file" and "filesystem" nor has it fundamentally altered the well-founded meanings of those terms.

ii. Applicant asserts the argument that "a database session object is different than file." See Amendment, page 24. Specifically, Applicant asserts the argument that because "the database session object is extended to include information about a root container for the hierarchy," said feature precludes the database session object from

being a file. The Examiner respectfully disagrees. It is inherent that if the database session object is "to include information about a root container for the hierarchy," said database session object would necessarily be stored in the referenced filesystem.

iii. Applicant asserts the argument that Idicula fails to teach or suggest "calling the Operating System to perform a file operation on the file by providing the access identifier to the Operating System to attempt access of the file." See Amendment, page 24. The Examiner respectfully disagrees. It is noted that Idicula discloses a system wherein the contents of a session object (e.g. session information) are checked to see if a session has already been created for a client. Upon finding that a session object associated with the client is indicated in the process state object (i.e. the file operation), the client is then allowed to received the requested database services from the database.

iv. Applicant asserts the argument that Idicula fails to teach or suggest "granting the user access to the resource only when the Operating System call successfully performs the file operation." See Amendment, page 25. The Examiner respectfully disagrees in that, as mentioned above, a client seeking database services passes a request to an Operating System. Within the passing of the request, client information associated with the session and resource are called and passed on to the Operating System. With the client information, the Operating System attempts to read the session object, searching for the presence of an existing session for the client. Wherein the Operating System successfully finds an existing session for the client, the client is then granted access to the database (i.e. the resource).

Additionally, Applicant asserts the argument that because "[t]he database server simply creates a new database session object and associates that session object with the client," the disclosed invention in Idicula fails to teach or suggest that a user is granted access to a database only when an existing database session object for a client is read

and found. See Amendment, page 26. The Examiner notes that the creation of a new database session object fulfills the requirements of the claimed invention in that a new database session object is present and existing when the user is subsequently granted access to the database.

Accordingly, for the aforementioned reasons above, the claim rejections under 35 U.S.C. 103 are sustained.

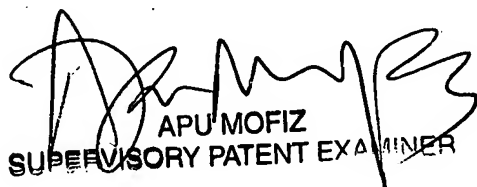
Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on (571) 272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Kim
Patent Examiner, Art Unit 2161
TECH Center 2100


APU MOFIZ
SUPERVISORY PATENT EXAMINER